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KIRTON & MCCONKIE

NO. 191 P. 5

Appl. No. 09/846,490
Amot. dated November 7, 2003
Reply to Office Action of July 7, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. (No amendments are made to the claims.)

Listing of Claims:

Claims 1-36 (Canceled)

Claim 37 (Previously presented) Method of fabricating tip structures for ends of contact structures, comprising:

depositing at least one layer of at least one conductive material on a surface of a substrate; depositing a layer of masking material atop the at least one conductive layer; patterning openings in the masking material;

depositing at least one layer of at least one conductive tip material into the openings, forming tip structures;

removing the masking material; joining the tip structures to contact structures; and releasing the tip structures from the substrate.

Claim 38 (Previously presented): Method, according to claim 37, further comprising: depositing a joining material on the at least one layer of at least one conductive tip material previously deposited in the openings.

Claim 39 (Canceled)

Claim 40 (Previously presented): Method, according to claim 37, wherein: the contact structures are resilient contact structures.

Claim 41 (Previously presented): Method, according to claim 37, wherein: the contact structures are composite interconnection elements.

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Claim 42 (Previously presented): Method, according to claim 37, wherein:

the contact structures are resilient contact structures disposed atop a space transformer of a probe card assembly.

Claim 43 (Previously presented): Method, according to claim 37, wherein said substrate is a sacrificial substrate.

Claim 44 (Previously presented): A method comprising:
fabricating a tip structure on a sacrificial substrate;
joining said tip structure to a contact structure; and
releasing said tip structure from said sacrificial substrate.

Claim 45 (Previously presented): The method of claim 55, wherein said step of fabricating a plurality of tip materials comprises depositing tip material in a plurality of openings in a masking material formed on said sacrificial substrate.

Claim 46 (Previously presented): The method of claim 55, wherein said step of fabricating a plurality of tip materials comprises:

depositing first material on said sacrificial substrate; depositing a masking material on said first material; patterning openings in said masking material; and depositing tip material into said openings.

Claim 47 (Previously presented): The method of claim 46, wherein said first material comprises a plurality of layers.

Claim 48 (Previously presented): The method of claim 46, wherein said tip material comprises a plurality of layers.

Claim 49 (Previously presented): The method of claim 55 further comprising forming said contact structures on a substrate.

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Claim 50 (Previously presented): The method of claim 49, wherein said step of forming said contact structures on a substrate comprises bonding wires to said substrate.

Claim 51 (Previously presented): The method of claim 50, wherein said step of forming said contact structures on a substrate further comprises over coating said wires.

Claim 52 (Previously presented): The method of claim 49, wherein said step of forming said contact structures on a substrate comprises planarizing ends of said contact structures.

Claim 53 (Previously presented): The method of claim 52, wherein said step of joining said tip structures to a plurality of contact structures comprises joining said tip structures to said ends of said contact structures.

Claim 54 (Previously presented): The method of claim 55, wherein said contact structures are elongate, and said step of joining said tip structures to said contact structures comprises joining said tip structures to free ends of said contact structures.

Claim 55 (Previously presented): The method claim 44 further comprising:
fabricating a plurality of said up structures on said sacrificial substrate;
joining said plurality of tip structures to a plurality of said contact structures; and
releasing said plurality of tip structures from said sacrificial substrate.